506.73
QH
1
N314X
NH

THE DIPPER SHELL

X-ray photograph
by William F. Seip

SMITHSONIAN
SEP 2 1959
LIBRARY

MARYLAND NATURALIST

The Natural History Society of Maryland

VOLUME XXVIII Nos. 1 — 4 1958

MUSEUM OF NATURAL HISTORY
MARYLAND HOUSE DRUID HILL PARK
Open daily 10 A. M. to 5 P. M. except Monday.

MARYLAND NATURALIST

On the cover is an apical X-ray view of *Cymbium aethiopica* Linne', the dipper shell. Inset is an aperture view of the same mollusc. These photographs were taken by the writer as part of a project concerning growth and form in certain molluscs. Examination of this shell revealed that the ratio of the expansion of each 360° turn of the spiral is roughly 1:3:9, a fixed factor of 3. Many gastropod shells exhibit this constant factor of 3, as do many other forms of animal and plant life. Growth and form is a very consuming study.

The shell illustrated, as X-rayed in the Department of Radiology of the Johns Hopkins Hospital, is of the super-family *Volutacea*, family *Volutidae*, genus and species as indicated. It is from the Philippine Islands and attains a length of twelve inches.

The Department of Molluscs is slowly developing a program of careful study and classification of the specimens now part of the Natural History Society's collection. Plans are being made to add new western Atlantic specimens as means become available. Members of the Society, and other interested persons, are urged to contribute their duplicate specimens (preferably those caught alive) to the department.

William F. Seip
Curator
Department of Molluscs

PUBLISHED by THE NATURAL HISTORY SOCIETY OF MARYLAND
2101 - 2103 BOLTON STREET, BALTIMORE, MARYLAND

VOLUME XXVIII Nos. 1 — 4

1958

Pico Turquino, towering 7200 feet above the Caribbean Sea, as seen from Ocujal. This jungle mountain was difficult to climb because of dense vegetation, extreme heat, and lack of water sources.

ASCENT TO CUEVA DEL AURA

by John E Cooper[1]

"Won't this obstacle course ever stop?" grunted Harry Guasch, addressing his question to no one in particular. His voice was scarcely audible, coming as it did between lung-heaving stabs of breath. Just above him I caught hold of a sapling, pulled myself a little further up the steep incline, and dropped heavily to the ground, loosening my pack and canteen belt as I fell.

"Man!" said Gausch, coming up behind me, "Straight climbing's bad enough, without having logs and gulleys thrown in. Move over!" He slammed down beside me, mopping heavy perspiration from his neck and face with the kerchief he used for a sweatband. His neck and bare-chest showed long gashes cut by the tall razor-sharp grass through which we were fighting.

Ahead of us our guide, Ramiro Diaz, looked back over his shoulder. Seeing that we had stopped for a rest break, he sheathed his machete and quietly sat down in the minimal shade of a tall yucca.

Forty feet below us Don Marlowe worked his way over and under the fallen royal palms that littered this part of the mountainside. His light-tan clothing was soaked dark with sweat. The rifle slung over his shoulder caught occasionally on an overhanging vine, throwing him a little off balance. Thirty-six hundred feet below Marlowe, as a stone drops, the Caribbean surged relentlessly against the south coast of Oriente Province. Seven thousand one-hundred and twenty feet above the white-spray tides towered the green tip of Pico Turquino, the highest mountain in Cuba. Over everything the bright hot West Indian sun burned fiercely. It was hard to believe, sitting here in a tiny patch of shade in a place where shade was at a distinct premium and surveying the distant rolling sea below, that scarcely a week before I had been enjoying the shading canopies of walnut trees at Stevenson, Maryland. Now here I was, in the late summer of 1956, less than three months before Fidel Castro's famed landing in Oriente, in the rebel stronghold of Cuba's rugged Sierra Maestra mountains.

Our group was there on one leg of a zoological collecting expedition, intending to obtain amphibians, reptiles and fishes from several remote regions in Cuba. These specimens were to be deposited in the United States National Museum in Washington, and the Natural History Society of Maryland, where they would be available for study.

The expedition was originated and essentially led by Jerry D. Hardy,Jr., of Catonsville, a staff member of the Natural History Society of Maryland and then with the Department of Zoology, University of Maryland. Jerry had been to Cuba on several previous collecting trips and had developed a strong interest in the fauna of the island. He had never been as far east as Oriente, the easternmost of Cuba's six provinces,but he had read about an expedition made in

[1]Curator of Herpetology, Natural History Society of Maryland.

SMITHSONIAN INSTITUTION AUG 11 1959

The capitol building in Havana. This structure, modeled somewhat after our own capitol building in Washington, faces on one of Havana's many public squares.

1936 by the Harvard zoologist P. J. Darlington. Darlington had brought a wealth of new forms to scientific attention by his courageous and difficult explorations in Oriente, particularly his ascent to Cueva del Aura, a shelter cave on Pico Turquino. No scientist had been there in a long time, and the challenge and its possible rewards quickly obsessed Hardy, who had no difficulty whatever in communicating the fever to those of us who had decided to return to Cuba with him.

The group consisted of E. Clyde Prince of Baltimore, staff member of the Natural History Society; Anthony Picciolo of Alexandria, Virginia, an ichthyologist from the University of Maryland; Donald Marlowe, also of Alexandria; and myself, then residing in Stevenson, who went along as Curator of Herpetology at the Natural History Society. One warm summer evening in early August we met together in a University of Maryland zoology laboratory, both a time and place conducive to forming plans for expeditions, and mapped most of the details of the trip. Shortly thereafter, at 9 p.m. Friday, August 26, we drove away from Picciolo's home in Alexandria with a heavily loaded stake-bodied trailer jerking along behind. Some three and one-half days and 1900 miles later we bumped into Santiago de Cuba, having crossed the Straits of Florida by way of the TMT Ferry from Key West to Havana. The ferry had plied the 118 miles of water in about nine hours, depositing us at Cuban customs at 5 o'clock Monday evening. Due to the uneasy political situation existing in Cuba at the time, which has since developed into a conflict of some proportion, we were questioned at length about an unregistered automatic rifle which we had brought along to supplement our registered collecting arms. Our arrest was nearly assured when the inspectors, who spoke no English, discovered several dozen signal flares in one of our packs, flares which resembled long red sticks of dynamite. But, we somehow managed to convince them of our babe-in-woods innocence, and continued on our way to Santiago.

In Santiago, after several much-needed hours of sleep, which was to us at this time a luxury, we proceeded to the office of the American Consul. Here, so we believed, arrangements were to have been made for our transportation down the coast. To make a long story short, arrangements were not made, and we were left to our own devices to find a way to get to the mountain. It was at this time that we met the first of the two memorable characters that we ran across in Santiago, a 23 year old English-speaking Castilean named Harry Guasch. He had heard about the "loco gringos" who were going to Turquino to catch frogs, snakes and lizards, and he wanted to go along, offering to act as our interpreter for only food and expenses. And, life-saver that he turned out to be, he knew of a way to get there. He told us of the little boats that sailed from Santiago every other day, going along the coast of the province carrying supplies to the people who lived in the jungle and picking up materials which they had for sale or trade. We hurried to the docks to make arrangements for our "passage" up the coast.

At the docks we met the second of the memorable Santiago "characters", a scarcely water-worthy relic of a craft called "Clarita", an insult to the lady in question if ever there was one. We talked to the captain, an African who had come over from Tanganyika some forty years before, and made arrangements to move out that night with a boatload of cargo and some passengers bound for the jungle settlements of coastal Oriente.

A scene along the rugged south coast of Oriente Province, showing some of the smaller mountains in the Sierra Maestra range. Parrots could be seen flying among the trees.

"Clarita", the "scarcely water-worthy relic" that plied the southern coast of Oriente on numerous trading ventures. This was the boat that carried the expedition from Santiago to Ocujal.

An "invasion-style" landing in the pounding surf at Ocujal. Three of the expedition's members are preparing to wade ashore through the rolling water and rocks.

Harry Guasch, interpreter for the expedition, was a Castilean resident of Santiago de Cuba.

A "beach" scene near Ocujal, on the south coast of Oriente Province. It was near here that Cuban rebel leader Fidel Castro landed his trcops in December, 1956.

At eleven that night we were at the docks with our equipment, the quantity of which was a tribute to our innocence, ready to sail for Ocujal, at the foot of Turquino.

It was a moonless night; gas lamps on the dock cast a yellow glow over the boat. Cubans from the jungle settlements waited on the dock silently, people who had left their *bohios* and come to Santiago for some reason or other and who were now going back home, probably never to come to Santiago again, or perhaps once more. There were men leading huge swine on dirty hemp ropes. There were old people dragging turkeys and ducks by long strings tied to the feet of the birds. And there were women with little babies, half-naked infants who looked as if they would never survive the voyage.

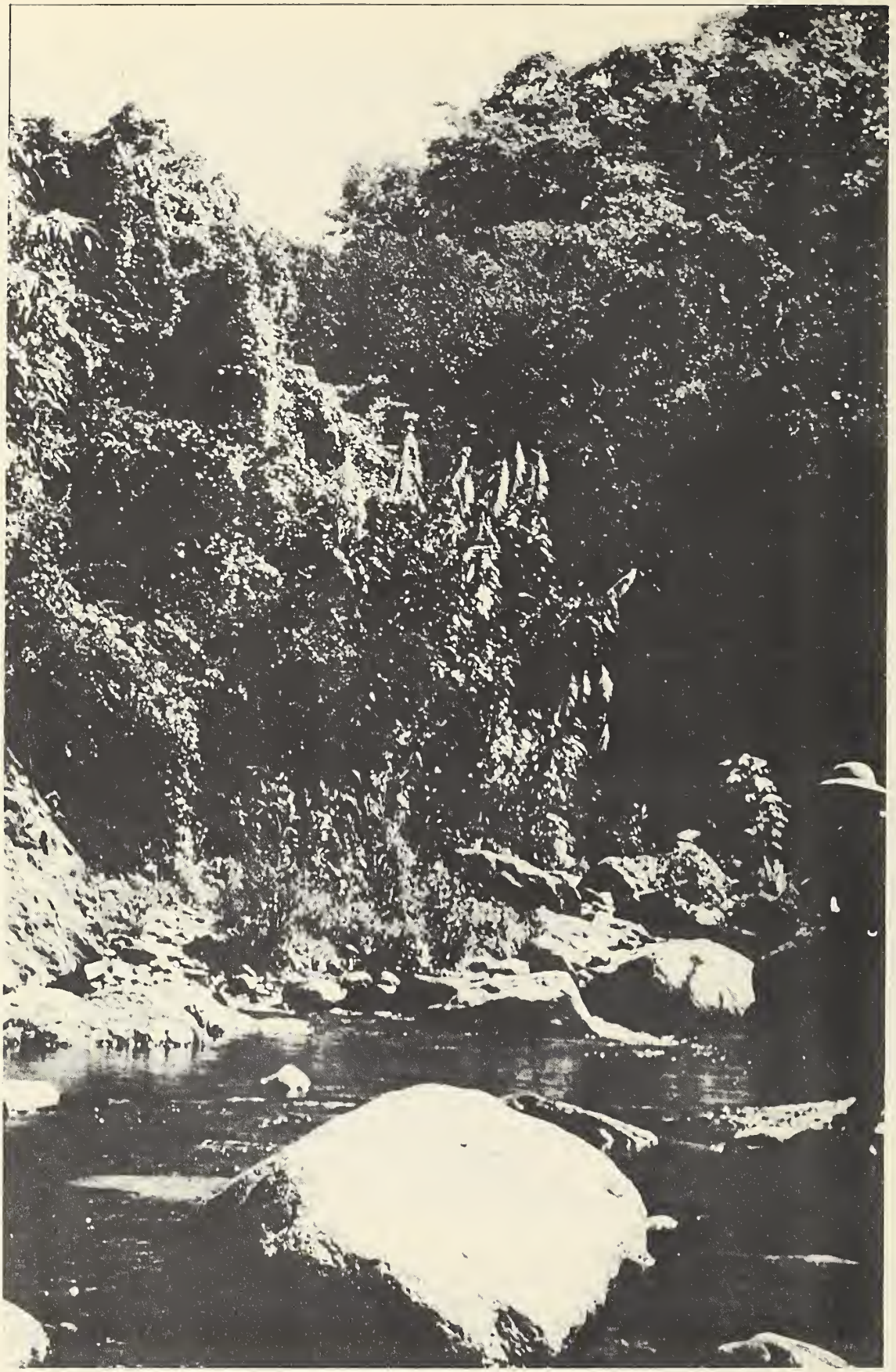
The captain from Tanganyika shouted orders and the cargo was loaded; corn for the farmers who lived in the hills, and beans, and cans of oil and gasoline and biscuits, bales of burlap, and new machetes, with points blunted by government decree, for youngsters who were learning the ways of their fathers in living off the land. "Clarita" took everything in her filthy hold, and the people came aboard.

We moved to the front of the boat, where the sea winds and the salt spray would hit first with their purity and clean freshness, and eased ourselves down near the anchor. We discussed incidents past, and plans and hopes yet to materialize, all of us imbued with a deep sense of adventure. And we wondered about this coast where we were going. In the dark a gasoline motor kicked over and "Clarita" lumbered away. The lights of Santiago faded into the darkness, and we all fell asleep, something which we never thought we could do.

When we awakened dawn was breaking over the sea, and before long the sun had come into being again. As the day wore on we occupied ourselves by gazing into the crystal clear water where we could see straight to the bottom. We watched huge coral fans move by beneath us and the deep bottom caverns with the bright blue-green reflections of the Caribbean. Occasionally we would see flying fish, or a giant sea turtle, and even the dark form of a marauding shark. The shoreline moved by slowly, and it was early evening before we arrived at Ocujal, a distance of around fifty miles.

At Ocujal we debarked in best invasion fashion, landing on the rock-clacking "beach" from a tossing rowbat. And almost as soon as we landed we were collecting. Several species of lizard of the genus *Leiocephalus* were running in and among the rocks along the "beach", peculiar little creatures that carried their tails curled high in the air above their backs. Hardy has recently named one of these as a new subspecies, *L. macropus immaculatus.* In the trees fringing the pounding surf were hundreds of chameleons, *Anolis argenteolus,* more properly known as anoles, since true chameleons are only found in Africa. We nearly broke a leg trying to climb and catch them.

We slept in a field at Ocujal that night, and collected near the village well, where we came up with such interesting animals as giant Cuban toads, *Bufo peltacephalus,* giant tree frogs, *Hyla septentrionalis,* yellow pigmy boa constrictors, *Tropidophis melanurus,* geckos, *Sphaerodactylus torrei* and even a specimen of the pencil-thin and very rare Wright's pigmy boa, *Tropidophis wrighti.*



A crystal-clear and extremely cold mountain stream, winding out of the Sierra Maestrae near Ocujal, Oriente Province, Cuba.

A large specimen of the Cuban giant tree frog, *Hyla septentrionalis*. The expedition collected over a hundred of these disc-toed tree dwellers.

From a kodachrome by Dr. Charles J. Stine

The head of a Cuban yellow ground boa, *Tropidophis melanurus*, captured near Ocujal, Oriente Province, Cuba. From a kodachrome by J. D. Hardy, Jr.

Ramiro Diaz, guide for the expedition, could present a very sinister appearance, despite the fact that he was one of the most trustworthy of men.

Ramiro Diaz, a native of Ocujal who served as guide for the expedition, poses in the waning sun 4,200 feet above the Caribbean Sea.

Next morning the hitherto hidden head of Turquino showed bright in the sun, towering above the clouds, and above the seas, and above us at Ocujal. We were anxious to be on our way, so we loaded up our back-breaking packs and lit out in what we considered to be the general direction of the mountain. Before long, however, we dragged our sweat-soaked selves into a cold-mountain stream, and all but decided to spend the rest of our lives in the nearly numbing refreshment of its bright clearness. The tremendous heat, combined with our back-breaking packs, had sapped all our energy reserves.

Fortunately for us our reasonably remarkable luck held out, and another "angel" of salvation, albeit a rather sinister looking one, came upon the scene. He was Ramiro Diaz, a native of the region, who lived in a palm-leaf and cane *bohio* nearby and who was wading up our skin-tingling stream in search of some unusual long-clawed, and apparently quite delicious, crustaceans. Ramiro offered to guide us to Cueva del Aura for the fantastic sum of three dollars per day. His only conditions were that we supply his food, and get rid of about half of our equipment. At his shack we cached the least indispensable of our materials, and, after sharing little cups of very black coffee with our guide's family, a universal gesture of hospitality in Cuba, we headed up the steep trail to the foot of Turquino.

As we moved closer to the mountain, it loomed ever ominously above us. The path, well defined near Ramiro's home, became more and more obscure, covered over by the thickening jungle growths. Before long Ramiro was busy in advance of us hacking away vegetation with his machete. Along the route which he blazed we found banana palms heavy with fruit, and papaya trees, and wild-growing corn. We took as much of these things along as we could comfortably carry and, as it turned out, we needed them, since our canned and dried foods disappeared long before we thought they would.

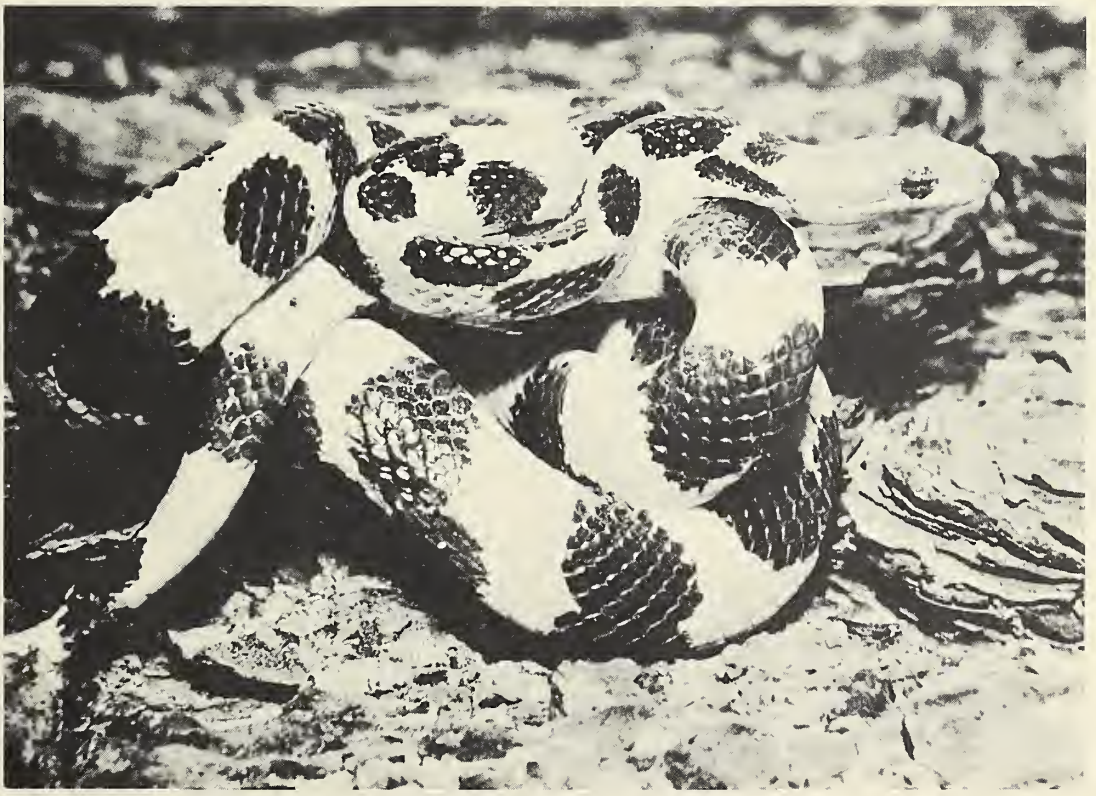
At several early points in our climb we stopped to collect specimens of a large and beautiful lizard, *Ameiva auberi*, the Cuban racerunner, which has a close relative, *Cnemidophorus sexlineatus*, right here in Maryland. Ramiro, on one occasion, ripped a large plant out of the ground, cut off its tuberous root, and jammed the root into his belt. This, we discovered, was the highly edible mantioch. Nightfall found us camped on the bank of another beautiful little stream, the second of three water sources on Turquino, at about 1800 feet elevation. We collected half the night in this area, adding many interesting specimens to our "bag", including a variety of fishes and two of the most gigantic *Hyla* I had ever seen, larger than most specimens of our native Maryland bullfrog.

Next morning, after a breakfast of sardines, crackers and bananas, we again started on our way up the increasingly more treacherous slopes. We had scarcely been underway an hour when Hardy came down with a malady which none of us could diagnose. Nothing in our meager kit of medical supplies was able to alleviate his condition and, although he struggled on gamely over hazardous bluffs and through slicing grasses, scarcely knowing who or where he was, he was forced to give up the ascent at "El Rancho". This was a group of leaf and cane shacks, built by no-one-knows-who, at approximately 3000 feet elevation. Picciolo and Prince, who were suffering from heat and extreme lack of water, volunteered to remain here with Hardy, while Guasch, Marlowe and I continued on

Jerry Hardy, organizer of the expedition, as he looked struggling through the giant, razor-sharp grass which plagued the expedition at nearly every step.

Looking down on the foothills of the Sierra Maestrae from above the clouds. This picture was taken from Cueva del Aura, 4200 feet up on Pico Turquino. A lone vulture can be seen wheeling far above the valley.

Alfredo Landay, his youngest daughter, and his oldest son, Mario. The Landay's were typical of the friendly, exceptionally hospitable people of Cuba's wilderness.



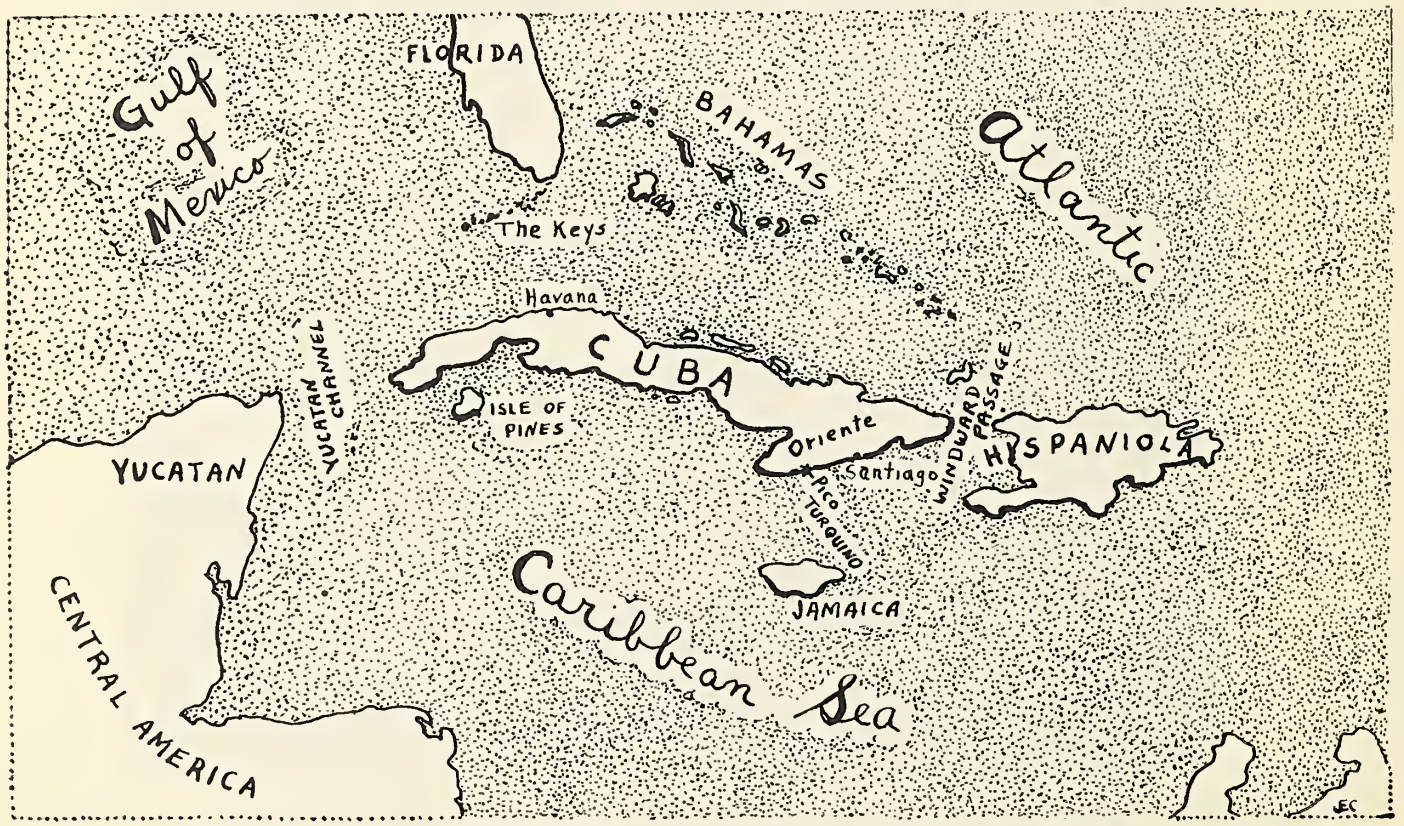
A specimen of the rare Wright's pigmy boa, *Tropidophis wrighti*, a small, pencil-thin constrictor which is almost an exact replica of the large boas of Central and South America. It is a pale snake with dark brown blotches.

From a Kodachrome by Dr. Robert Simmons

towards our destination. We discarded all of our remaining equipment, except for specimen bags, three canteens each, lights, and some food, and bade the rest of the group farewell. If we were not back by the following morning they were to return to the second stream, where we would meet them as soon as we could.

It was a hard climb to the shelter cave, but we made it without mishap, before nightfall. According to Ramiro, we were the first gringos to ever reach this point carrying our own equipment and supplies. And at night we collected unusual frogs, members of the genus *Eleutherodactylus*, which were hidden in crevices during the day and which had only been seen by science on one other occasion. And, what was even more thrilling, the dream of every zoologists quest, we found frogs which may be completely unknown to anyone and for which even Ramiro, who had lived in the area all his life, could supply no name.

So this was, on the face of things, our reward. We had come over two thousand miles, from the traffic roaring streets of our "civilized" homes to the remote and primitive forests of the Sierra Maestrae, in the hope of doing exactly what we had done, finding an animal, and perhaps more than one, new to science. But, as we sat earlier in the coming dusk, around a faint campfire glowing in the archway of the shelter cave that had once known nesting buzzards, we had watched the clouds and the sky and the entire mountainside flush pale with gentle pinks and blues, and deepen through the purples and reds of a dying sun to the quiet black of a beautiful and unsophisticated night. And I wouldn't have much cared then if we had never seen a frog. This reward somehow seemed greater.



A NEW SPECIES OF SUCCINEA (MOLLUSCA; GASTROPODA) FROM THE EASTERN SHORE OF MARYLAND

by *Ralph W. Jackson*[1]

Succinea crisfieldi, new species

Description. The shell is obesely ovate, amber, shining, rather stron with an apex of light brown, the color continuing to the penultimate whorl in many specimens. Suture deeply impressed with strongly convex whorls. Sculpture of fine growth lines with some specimens showing faint spiral striation on the penultimate whorl; body whorl with irregular axial wrinkles. Aperture ovate, columella slightly reflected near the parietal wall.

Holotype. Length 16.8 mm., diameter 10.1 mm., height of aperture 10 mm.; $4\frac{1}{4}$ whorls. No. 9817, collection of author.

Paratype. Length 15.6 mm., diameter 10 mm., height of aperture 10 mm.; $3\frac{1}{2}$ whorls. No. 9818, collection of author.

Paratype. Length 17 mm., diameter 9.1 mm., height of aperture 10.1 mm.; $4\frac{1}{4}$ whorls. No. 9819, collection of author.

Recognition characters. The species is readily recognized by the color of the apical whorls and the irregular axial wrinkles of the body whorl. *Succinea aurea* Gld. is much smaller and somewhat paler; *S. ovalis* Say is differently shaped and of a yellow-green color. These two species are found in the general region but not at this locality.

Type Locality. Foot of North Seventh Street, Crisfield, Somerset County, Maryland.

Remarks. Specimens are deposited in the Academy of Natural Sciences of Philadelphia, the Museum of Comparative Zoology of Harvard University, the Natural History Society of Maryland, in the collection of Mr. Leslie Hubricht and in the collection of Mr. and Mrs. George D. Young. The species was found in abundance by Mr. and Mrs. Young and the author on September 20, 1953 and again on November 11, 1953, the last mentioned date finding the colony fully 75% in the act of copulation.

[1] Route No. 1, Cambridge, Maryland.

Helonias bullata, the swamp pink, a type of lily. Photographed in 1956 in one of Dr. Plitt's original localities.

BOTANIZING IN ANNE ARUNDEL COUNTY FIFTY YEARS AGO

Late in the 1880's a group of Baltimoreans, led by Mr. George Smith, who at that time was teaching at the old Maryland Normal School, formed an organization known as the Baltimore Botany Club. In the course of time this became incorporated with the Maryland Academy of Sciences and most of the older members by the beginning of the century had dropped out. Among the younger botanists of that time was Charles C. Plitt. Dr. Plitt became a botanical collector sometime in the 90's and soon became associated with the botany section of the Academy. His earlier excursions had been largely by himself or with one companion, but the custom gradually grew of taking Saturday afternoon tramps for the botanical interest and instruction of a group of educators, many of them teachers in the public school system.

When, about 1948, The Maryland Academy of Sciences donated to the Natural History Society the botanical collections still in their possession, there came with the herbarium two slim note books - one, incorporating the minutes of the old botanical group - and the other a series of write-ups of Dr. Plitt's Saturday afternoon excursions. Some day we hope to give a history of the botanical activities in the vicinity of Baltimore, but the purpose of the present note is merely to introduce one of the accounts of Dr. Plitt's Saturday afternoon trips - the only one in the note book which was written by himself. The style and punctuation of the original informal write-up has been retained. Only a few additions have been made in brackets to identify some botanical names.

Despite the passage of more than half a century and the rapid growth of the City of Baltimore into the northern part of Anne Arundel County, the present day motorist can retrace a considerable portion of the tramp described in the following account. The box huckleberry is still threatened, but not yet exterminated. The climbing fern still grows and the golden club adorns the marshes. Each year a small group of devoted botanists still visits the Helonias locality to admire these beautiful and unusual Maryland wildflowers. The sandy roads have been replaced and the old Baltimore and Annapolis Railroad has been superceded by busses. We might perhaps no longer speak of a trip into the "wilds of Anne Arundel", but the contrast between 1905 and 1958 on the level of herbaceous plants is not so great perhaps as one might at first imagine.

Haven Kolb

Baltimore, April 29, 1905

Today the Botany Section of the Maryland Academy of Sciences proposed to take a trip into the wilds of Anne Arundel. It having already been proposed that for each trip a historian should be chosen, I was somewhat curious to know to whom this pleasant task would fall.

When I awoke and noted how cloudy it was, and, when later I read that showers were foretold for the afternoon, I began to fear that the number of our would-be botanists would be very small. However, I had no idea that it would be as small as it really was.

I arrived at the station fully fifteen minutes before train time, first of all, for after a careful search, I noted that no other member had yet arrived. Car after car was observed to pass the station, but the number of trampers did not increase. Finally when it was three minutes before train time, I realized fully that if the Section was to have its April trip, it would have to be taken by myself alone. I, therefore, quickly bought my ticket and proceeded to the train. There was little discussion as to "who would be historian".

It was nine o'clock when I arrived at Elvaton. I set out at once for Waterford, but had proceeded but a short distance when it began to rain. I could imagine I could hear all the wise stay-at-homes congratulating themselves.

I had my large umbrella, so trudged merrily onward, decidedly happy, for it had been some time since I had had the pleasure of being out on a rainy day trip.

The trip proposed was over a very sandy region; it is so sandy, that our three previous days' rains had as yet had little effect upon it; it still was sandy and I sank into it several inches with every step, what would it have been had there been no rain? But, I know, for I have been over the ground before. At times, it rained quite hard, but I hardly noticed it, my umbrella protected me and the sandy soil drank in every drop.

But few plants were found in bloom on my way across the fields. It was only when close to Waterford, and I decided to turn into the woods and go along the shore of the pond, that my botanical recording began. At the head of this pond is a broad marshy area. Here various nice things in the botanical line are found during the season. Today, its attraction was *Orontium aquaticum* (Golden Club) - more than an acre of marshy ground thickly covered over with this pretty quatic. Here, too, is Drosera sundew in profusion. Already large-sized plants are to be found. The *Orontium* was in full bloom. Along the edge of the pond one finds now *Pyrus arbutifolia* (Red Chokeberry) and *Amelanchiour canadensis* (Shadbush) in bloom.

This part of my trip was quite a wet one and I soon had wet feet. I was sorry to find that many of the trees near the mouth of the pond had been cut down. Here, I found *Viola pedata*(Bird's-foot Violet)in profusion.

Arrived at Waterford, I crossed the bridge at the mouth of the pond, then turned in to the left and proceeded to the spot where the Box-huckleberry *Gaylussacia brachycera* grows. The little path along which I went skirts the edge of a large field. Here, I have on my left the deep ravine, mostly pine-covered and on my right the field. The pines are slowly encroaching upon the field and if let alone would soon reforest the entire area. The path passes through this new growth of pines. All along this path, one may find interesting little spots especially rich in the lower forms of plant life. Geasters, a fungus here, are very common. I could have collected dozens of them!

I found the Huckleberry locality quite easily; it is very close to a little side ravine, an off-shoot of the main ravine. As soon as I entered this little ravine, I saw at once that I had come to the right spot. The rainy weather, these past few days had made it a botanical paradise. Had I not had other things in view, I would have remained here the rest of the day. An old dead Holly tree attracted my attention first of all. It was covered with the two Liverworts:-*Lejennea clypeata* and *Frullania squarrosa.*

It was now nearly twelve o'clock; it had stopped raining nearly an hour. Here several fallen trees made a pretty camp, and on the hillside, not far away was a fine spring. These attractions made me decide to eat my lunch before going farther.

After dinner, I proceeded along the hillside to the Box-huckleberry. It was in bloom, so I secured several specimens for the herbarium.

I now decided to cross the stream and return to Waterford. This, however, was not an easy matter, the stream being quite wide and its banks bordered with tall shrubs and cat brier. Fortunately, a fallen tree closely, was lying right across the stream. After securing two tall props, to steady myself, I crossed quite easily. While looking for the props, I was surprised to find a *Cypripedium acaule*- the Stemless Ladyslipper in full bloom. This is the earliest that I have yet recorded finding this plant in bloom. After crossing the stream I made my way to the road and then proceeded back to Waterford. On my way more Ladyslippers were found in bloom.

At Waterford, I discovered two large White Pines. They were close to the road, I wonder why I have never observed them before?

From Waterford, I hastened back to Elvaton and then proceeded to Forest Home. I have been over this route a number of times, but today I missed the road. When I observed that the road was continually going up-hill I knew at once that I was going wrong. My mistake, however, was not without some good, for here grew *Viola pedata* in the greatest profusion, also Lupine, some of which was in bloom. I had not gone so very far out of my way, and I only needed to go back a short distance to a cross road to get back on the right

route. While going along this cross road, I made another nice little discovery. Here, in a low, open woods, grew many plants of *Arnica nudicaulis*, (Leopard's-bane). They were not yet in bloom.

It did not take me very long now to reach Forest Home. Just before reaching this old country seat, I passed through the *Lygodium palmatum* - the Climbing Fern district. The young fronds are already three to six inches above ground. A number of last year's fronds, still in fairly good condition, were examined, and a few spores were obtained.

From Forest Home, I proceeded to the branch and then to the *Helonias bullata* (Swamp Pink)locality. My trip to this region today was particularly to see this fine plant. I was still in time to see the plant at its best, a week later would have been too late. The number of plants in bloom was probably about 200. There were not as many as last year, possibly only one-half as many. Here in this same locality are immense patches of *Okesia sessilifolia* - the Bellwort, also large ones of *Maianthemum* (False Lily-of the-Valley).

After visiting my marked patch of *Helonias* and having noted developments, I decided to return to the station.

On the way back, I stopped to see my large Pitcher Plant, this year it will have seen flowers.

I arrived at the station (Marley) fully ten minutes before train time.

The entire afternoon had been beautiful, in fact, it would have been well had it rained a little more in some places to have made the sandy roads a little more passable.

I arrived in the city about 7:30 P.M.

ATTRACTING BIRDS

If you do not have too many and too persistent cats in your neighborhood, you can do yourself and the wild birds a good turn by attracting the birds to food and water. If you erect a feeding station close to a window you can study the colors and actions of certain birds without the aid of field glasses.

Especially during migration and on hot, dry summer days, dripping water will attract birds. To construct a suitable drip can, push the tip of a pointed strip of cloth through a nail hole in the bottom of a gallon (or larger) can. Hang the drip can over a shallow pan.

It often takes birds a few weeks to find a new feeder. Scattering a few seeds under the feeder will help them locate it. But, the ground is often too moist and too dangerous to serve as a permanent feeding place.

If you start a feeding station in the autumn you should continue it during the coldest weather. If a bird that does not normally winter here is so attracted to your feeder that it fails to go as far south as usual, it may starve if the feeder stays empty during a cold spell. Despite the fact that the Carolina Wren is a frequent winter resident of this area, most of those that had no access to a piece of suet or a jar of fat apparently starved to death during the coldest days of last winter. There were virtually no Carolina Wrens in their old haunts this spring.

A good simple feeder can be made from a scrap of board, around which are nailed little strips, forming an edge in the manner of a cake pan. Another good feeder that is simple to construct can be made by hanging a large jar. Jars may be supported by strong wire, but it is better to wrap a strip of hanger iron (which looks like a metal belt with many holes punched in it and is attainable from any hardware store) around the larger jars. A strip of old inner tube under the hanger iron belt will keep it from slipping off the jar. Tighten the belt on the jar and insert a bolt and nut through the top holes. A small "S" hook can be inserted in a band of wire attached to a tree limb, making a fine hanging feeder. To enable birds to perch, stick a piece of electrician's tape around the rim or clip a clothespin over the rim of the opening. If bothered by squirrels you can hang the feeder between baffles on a wire between two trees. A baffle is simply a tin-can (large juice cans serve well) strung on the wire so that it turns when a squirrel steps on it.

Table scraps will attract some birds. Mockingbirds and Catbirds enjoy apple cores and melon rinds; Crackles and Sparrows eat bread crumbs. Cardinals are delighted by cantaloupe seeds. Waste fat poured into a baby-food jar or similar *small* jar may be laid on the shelf feeder. It will be very welcome to Carolina Wrens and Woodpeckers. Pieces of suet may be lashed to tree trunks with string. Cracked corn (for feeding baby chicks) will attract many seed-eating birds - Song Sparrows, an occasional Field Sparrow and Tree Sparrow, White-throats, Juncos, Cardinals, Blue Jays, Chickadees, and Nuthatches. Sunflower seeds are the only food that will attract the unusual and beautiful Purple Finches and the still rarer Evening Grosbeaks that appear only during certain years. Sunflower seeds cost around 35¢ per pound, but can be obtained less expensively when ordered by the 100 pound from Kellogg Seed Company, P.O. Box 684, Milwaukee 1, Wisconsin ($14.00, 1957 price, freight paid by company).

Eleanor C. Robbins
R.D. #1, Box 323A
Laurel, Maryland

Blue Jay versus Chipmunk

A full-grown, young, captive Blue Jay, *Cyanocitta cristata* convalescing from a broken wing, was in the habit of perching on the low branches of a small tree on the lawn of our yard at Greenbelt, Prince George's County, Maryland. It had regained enough of its power of flight to descend to the ground, about seven feet below, from the branches where it foraged for insects and exercised generally. It was reported to me that on July 11, 1958, while the blue jay was hopping about on the ground, it met and routed a chipmunk which had its home in a hole beside the sidewalk of our yard.

On July 12, 1958, just after the blue jay had been put on the top rung' of an old clothes dryer propped against the tree as an additional perch for the bird, a chipmunk ran down the sidewalk in full view of the jay, turned the corner, and flanked the other side of the hedge to a point within a few feet of the jay's perch. The jay noticed the chipmunk and hopped up and down excitedly from one rung of the clothes dryer to another, giving short, starling-like gurgling notes. The chipmunk came through the hedge opposite the jay's perch and went swiftly to the base of the dryer just beneath the bird. The jay attacked immediately, jumping down at the chipmunk from the second rung, but the nimble mammal dodged, skirted the base of the dryer and climbed to the second rung. Then, after a moment of hesitation, the jay hopped up to the first rung of the dryer opposite the chipmunk which was about $2\frac{1}{2}$ feet away. The chipmunk leaped quickly down to the grass, ran to a spot just below the jay, jumped up and, with its mouth, seized the jay near the base of the tail. Both animals tumbled to the grass below where the struggle continued. The jay was now on its back, apparently quite helpless, as the chipmunk appeared to be biting it at the base of the tail. Denied full use of its recently broken wing, the handicapped jay gave its distress call which was answered immediately by the other jays in the vicinity.

After its rescue, the bird perched with its back humped up, obviously much affected by the encounter, and did not utter a sound for about five minutes when it resumed its activity and accepted some food. Examination of the bird revealed no injury, and the subsequent behavior of the bird was normal.

It is recognized that chipmunks have occasional carnivorous tendencies. Palmer (1949, Fieldbook of Natural History) points out that they destroy young birds.

Donald H. Lamore
Biology Department
Cottey College
Nevada, Missouri

Publications of
The Natural History Society of Maryland

A LIST OF THE BIRDS OF MARYLAND

Paper cover, 96 pages, 9 illustrations. A list of all the species of birds now known to occur in Maryland. Brief annotations give information concerning seasons of occurrence and regional distribution. Price $1.10

MINERALS OF MARYLAND

Paper cover, 92 pages, 20 illustrations. Contains check-list of all known minerals of Maryland and principal locations. Price $.80

SNAKES OF MARYLAND

Paper cover, 103 pages, 11 plates in color and 33 black and white. Contains identification keys and distribution map. Price $1.50

FAMILIAR BUTTERFLIES OF MARYLAND

Paper cover, 30 pages, 1 plate in color and 16 black and white plates illustrating 40 common butterflies of Maryland. Price $.20

FAMILIAR MOTHS OF MARYLAND

Paper cover, 19 pages, 9 plates illustrating 11 common moths, principally the larger species, found in Maryland. Price $.15

BIRDS OF BALTIMORE AND VICINITY

Paper cover, 24 pages, map. Contains arrival, departure and nesting dates; arranged according to seasonal groups. Space is provided for additional records. Price $.15

THE PERIODIC CICADA

Leaflet of 4 pages describing the complete life history of the "Seventeen Year Locust." Price $.08

No. 10. SOME INDIAN VILLAGE SITES IN LOWER PATAPSCO RIVER

Another excellently illustrated report on Indian artifacts from Anne Arundel County. 6 pages, 5 half-tones, 1 map. Price $.35

MARYLAND NATURE LEAFLETS

A series of 4 page leaflets, 8½" x 11", each profusely illustrated with line drawings, and with vocabulary especially adapted to middle high school grades. *Prices:* 8 cents each for ten or less; all over ten, 6 cents each, any assortment.

#1 Maryland Maples
#2 Maryland Salamanders
#3 Winter Birds in Maryland
#4 Maryland Frogs and Toads
#5 Queer Fishes of the Chesapeake
#6 Turtles of Maryland
#7 Spring Flowers in Maryland
#8 Common Fresh Water Fishes of Maryland
#9 Common Maryland Insects
#10 Our Maryland Indians
#11 Maryland Tree Frogs
#12 Introducing Maryland Mammals

SMITHSONIAN INSTITUTION LIBRARIES
3 9088 01371 7574

The Natural History Society of Maryland

Founded 1929

"To increase and diffuse knowledge of Natural History"

OFFICE, LABORATORIES and LECTURE ROOM
2101-2103 Bolton Street
Baltimore 17, Md.

Office Hours: Tuesday 10 A. M. to 4 P. M. *Telephone:* MAdison 3-9644
Open Tuesday evenings from 8 to 10 P. M.